MEASURING FOOD AFFORDABILITY

Food affordability is a concept taking into account both food prices as well as the incomes of those who are consuming food. Although data are not regularly reported on the affordability of food, it is possible to use Purchasing Power Parity (PPP) data on incomes and food prices in 1993 to create a good Baseline Food Affordability Index. For successive years, readily available data on food price inflation and income growth can be applied to track changes in Food Affordability. Thus, measuring Food Affordability is a two-step process: a baseline index can be calculated using relatively scarce PPP data, and changes in Food Affordability can be obtained more easily using food inflation and consumption data. The methodology is described below, followed by the findings using the most recent data available.

Food affordability takes into account both food prices as well as the incomes of those who are consuming food. The affordability of food varies considerably between poor and wealthy nations given both prevailing prices and the wide differences in incomes. Among poor households in developing countries it is common to spend over 50% of household income on food just attempting to satisfy basic caloric requirements. Among OECD countries, about 10% of (much higher) household incomes are used on food expenditures, most which greatly exceed basic caloric requirements.[1] A comparable basket of food necessary to meet basic caloric requirements is easily affordable in wealthy countries -- in many cases 60-70 times more affordable than in the least developed countries. This confirms Engel's Law, which states that households spend an increasing amount, but a decreasing proportion, of income on food as their incomes rise. For the most part, it is the wide disparity in income found among nations which causes the wide disparity in Food Affordability, as shown in Chart 1.[2]

Agribusiness development promotes food affordability by creating greater efficiencies in the food production and distribution process, which increases both the quantity and quality of food while at the same time lowering the consumer cost. It also provides higher incomes to all those involved in the entire agribusiness chain of development, including farm producers, marketers, distributors, vendors, and others.

1) Creating a Baseline Index Number for Food Affordability

A country's international price level relative to the United States can be calculated as the ***ratio*** of its Purchasing Power Parity rate to the official exchange rate (in local currency units per U.S. dollar).[3] An international price level above 100 means that the general price level is higher than in the United States. (See Column 2, Table 1.) The *World Development Indicators* also reports the relative cost of food versus other goods and services in the economy -- a figure above 100 indicates that the price of food is higher than the average price level[4]. (See Column 3, Table 1.) By combining these two indicators, we can determine the cost

[1] These spending patterns reflect consumer spending surveys of purchases made on food, converted using internationally comparable prices (purchasing power parity). These surveys are coordinated by the UN's International Comparison Programme (ICP).

[2] It may be surprising that such a vast disparity in Food Affordability exists in the world. The Food Affordability Index described here is relative to the base period 1993 of Food Affordability in the United States, where food is extremely affordable.

[3] The International Comparison Programme (ICP) collects data on prices paid for comparable items in more than 100 countries. Using these prices, it is possible to calculate the PPP exchange rate by comparing similar bundles of goods. The international price level, which is the ratio of the PPP and official exchange rate, reveals that a bundle of goods and services which costs $100 in the U.S. would only cost the local currency equivalent of $29 in Sierra Leone.

[4] The average price level is calculated based on PPP-adjusted prices of a comparable basket of food items. Food prices, in general, are lower in less developed countries. By contrast, Section 4 (Internationally Comparable Prices for Wheat and Maize) shows that the costs of wheat and maize are frequently more expensive than in the U.S., adjusting for local purchasing power.

of a similar bundle of food across countries relative to the cost in the U.S. (See column 4, Table 1.)

The final step to creating the Baseline Food Affordability Index is to compare the cost of food to the prevailing income level. Since household income data are not available, GNP/capita is used as a proxy. The Baseline Food Affordability Index is the ratio of internationally comparable food costs to GNP/capita, indexed so that the U.S. equals 100. (See Column 6, Table 1.) This tells us that food in the United States is approximately three times as affordable as in Russia (32.0), four times as affordable as in Hungary (24.1), ten times as affordable as in Indonesia (10.2) and about 70 times as affordable as in Sierra Leone (1.4).

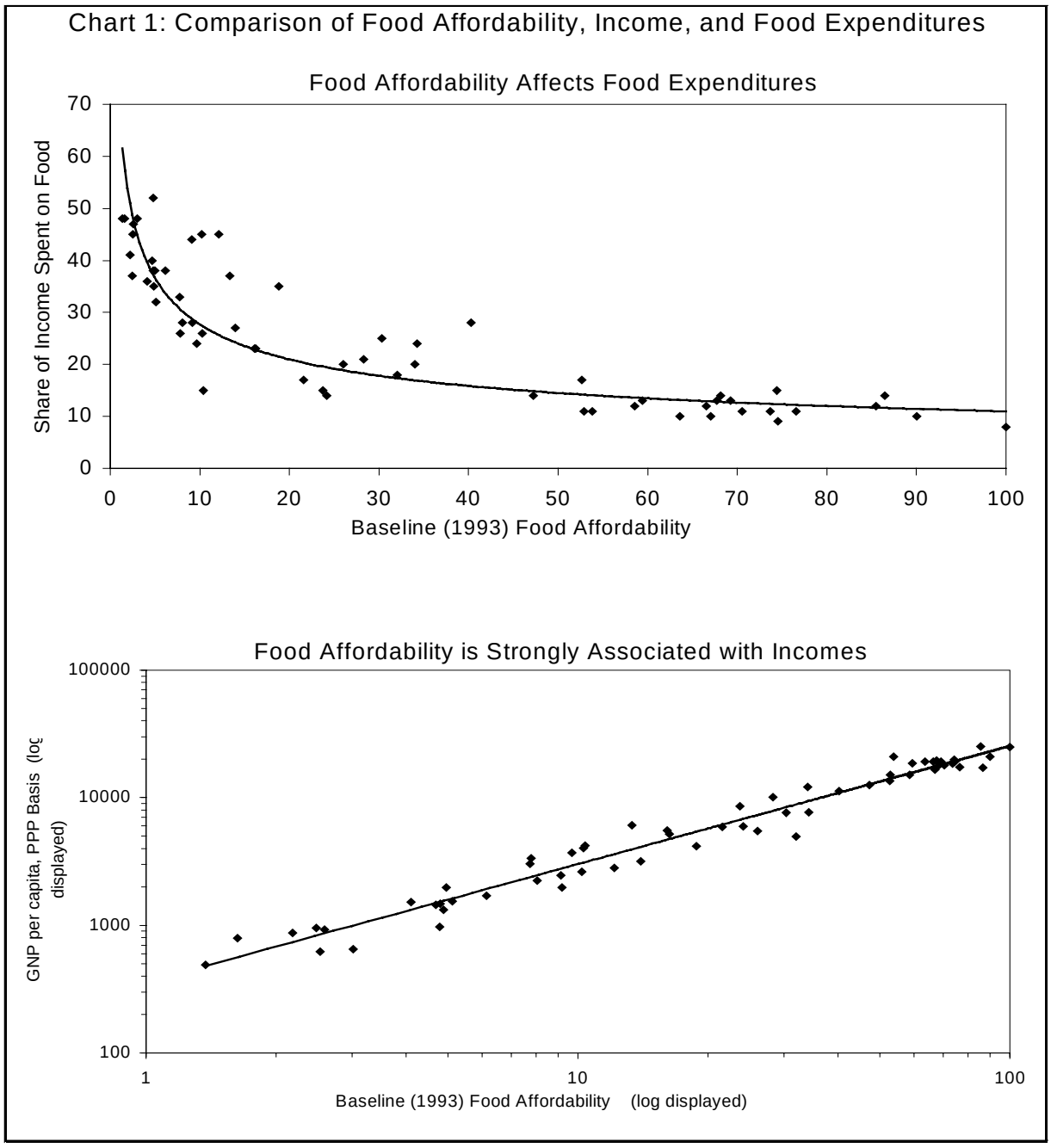


Table 1. Baseline (1993) Measure of Food Affordability Using PPP Food Prices and Income

	A bundle of goods and services which cost $100 in the U.S. would cost…	Relative cost of food compared to all goods and services in the economy…	Therefore, a bundle of food which cost $100 in the U.S. would cost…..	Which, as a percent of GNP/capita, is…	Baseline "Affordability" of a bundle of food relative to the U.S.
Sierra Leone	29	141	46	29.0%	1.4
Nigeria	36	150	61	24.5%	1.6
Bangladesh	24	154	42	18.3%	2.2
Nepal	22	129	32	16.1%	2.5
Malawi	34	98	38	15.8%	2.5
Zambia	43	126	62	15.4%	2.6
Mali	38	92	40	13.2%	3.0
Congo, Rep.	64	115	84	9.7%	4.1
Pakistan	28	115	37	8.5%	4.7
Kenya	21	91	22	8.4%	4.8
Senegal	48	87	47	8.3%	4.8
Côte d'Ivoire	52	101	60	8.2%	4.9
Sri Lanka	34	123	48	8.1%	5.0
Guinea	33	106	40	7.8%	5.1
Cameroon	50	87	49	6.5%	6.1
Philippines	35	105	42	5.2%	7.7
Jamaica	55	119	74	5.1%	7.8
Moldova	32	131	48	5.0%	8.0
Egypt, Arab Rep.	35	88	35	4.4%	9.1
Zimbabwe	26	81	24	4.4%	9.2
Romania	33	132	50	4.1%	9.7
Indonesia	30	93	32	3.9%	10.2
Grenada	76	120	104	3.9%	10.3
Bulgaria	33	128	48	3.8%	10.4
Morocco	37	83	35	3.3%	12.1
Gabon	80	147	134	3.0%	13.4
Swaziland	35	84	33	2.9%	14.0
Turkey	55	123	77	2.5%	16.1
Thailand	43	106	52	2.5%	16.3
Tunisia	39	81	36	2.1%	18.8
Slovak Republic	40	87	40	1.8%	21.6
Czech Republic	39	106	47	1.7%	23.7
Hungary	69	74	58	1.7%	24.1
Trinidad and Tobago	59	89	60	1.5%	26.0
Korea, Rep.	70	137	109	1.4%	28.3
Botswana	37	103	43	1.3%	30.3
Russian Federation	25	122	35	1.2%	32.0
Portugal	73	125	104	1.2%	34.0
Mauritius	39	81	36	1.2%	34.3
Greece	80	104	95	1.0%	40.3
Ireland	97	101	111	0.8%	47.2
Spain	92	100	105	0.8%	52.7
Finland	107	121	147	0.8%	52.9
Japan	161	130	238	0.7%	53.8
New Zealand	82	91	85	0.7%	58.6
Iceland	123	120	168	0.7%	59.4
Denmark	136	108	167	0.6%	63.6
France	116	102	134	0.6%	66.6
Sweden	126	103	147	0.6%	67.0
Austria	119	102	138	0.6%	67.7
Italy	97	105	116	0.6%	68.2
Norway	126	117	168	0.6%	69.3
Netherlands	115	92	120	0.6%	70.5
Germany	127	90	130	0.5%	73.7
Belgium	108	95	117	0.5%	74.4
Canada	98	96	107	0.5%	74.5
United Kingdom	96	86	94	0.5%	76.5
Switzerland	144	108	177	0.5%	85.5
Australia	92	77	81	0.5%	86.5
Hong Kong, China	95	76	82	0.4%	90.1
United States	100	88	100	0.4%	100.0

Source: World Development Indicators, Table 4.11.

These huge differences in affordability reflect both the high American incomes and the low price of food (relative to American incomes). Consequently, countries can achieve higher Food Affordability ratings through higher incomes and lower food prices. In fact, Food Affordability improves by the same degree that incomes improve -- all other things being equal, if incomes rise by 10% so will Food Affordability. Food Affordability also improves with lower food prices -- all other things being equal, if food prices fall by 25% then Food Affordability increases by one-third.

2) Obtaining Timely Measures of *Changes* in Food Affordability

Unfortunately, the PPP data on food prices and incomes are only available with several years of lag, and PPP data on many developing countries is not available at all. It is possible, however, to measure the ***CHANGE*** in food affordability using easily obtained data on food price inflation and consumption. Since food prices are commonly used to calculate inflation data, they are collected in most countries on a timely basis, and with relative accuracy. The United Nation's *Monthly Bulletin of Statistics* publishes the food component of inflation for almost every country with only a 12-18 month lag. The **Change in Food Affordability**, using these data, is obtained by measuring the amount by which consumption outpaces food price inflation. These changes must be compared to a base period, in this case, 1993. Table 3 shows that Brazilian Food Affordability improved 51.4% 1993-97. Food Affordability in Mexico, by contrast, worsened by 13.1%. Chart 2 shows Food Affordability in 50 developing countries ranked by cumulative changes, 1993-97. Annually, Food Affordability may change significantly reflecting upward or downward movements in both food prices and consumption levels. Food Affordability in Zambia, for example, decreased by 10.5% in 1996 and increased 8.7% in 1997, as shown in Table 2, reflecting large swings in food prices relative to local inflation and incomes.

Although not directly comparable, the Change in Food Affordability can be compared to Baseline Affordability (discussed above) to learn more about how Food Affordability changes in countries where food is already relatively affordable or not. For example, we know that Food Affordability has been improving strongly in Malawi, even though food in 1993 was only 2.5% as affordable as in the U.S.

In Zimbabwe, where food is about 9% as affordable as in the U.S., food affordability increased nearly 25% in 1997. (Further inspection of the data shows that food price increases did not keep par with the rest of the highly inflationary economy that year.) Some additional comparisons between the recent changes in the Food Affordability Index and the initial ranking on the Baseline (1993) Affordability Index are shown in Table 2 below:

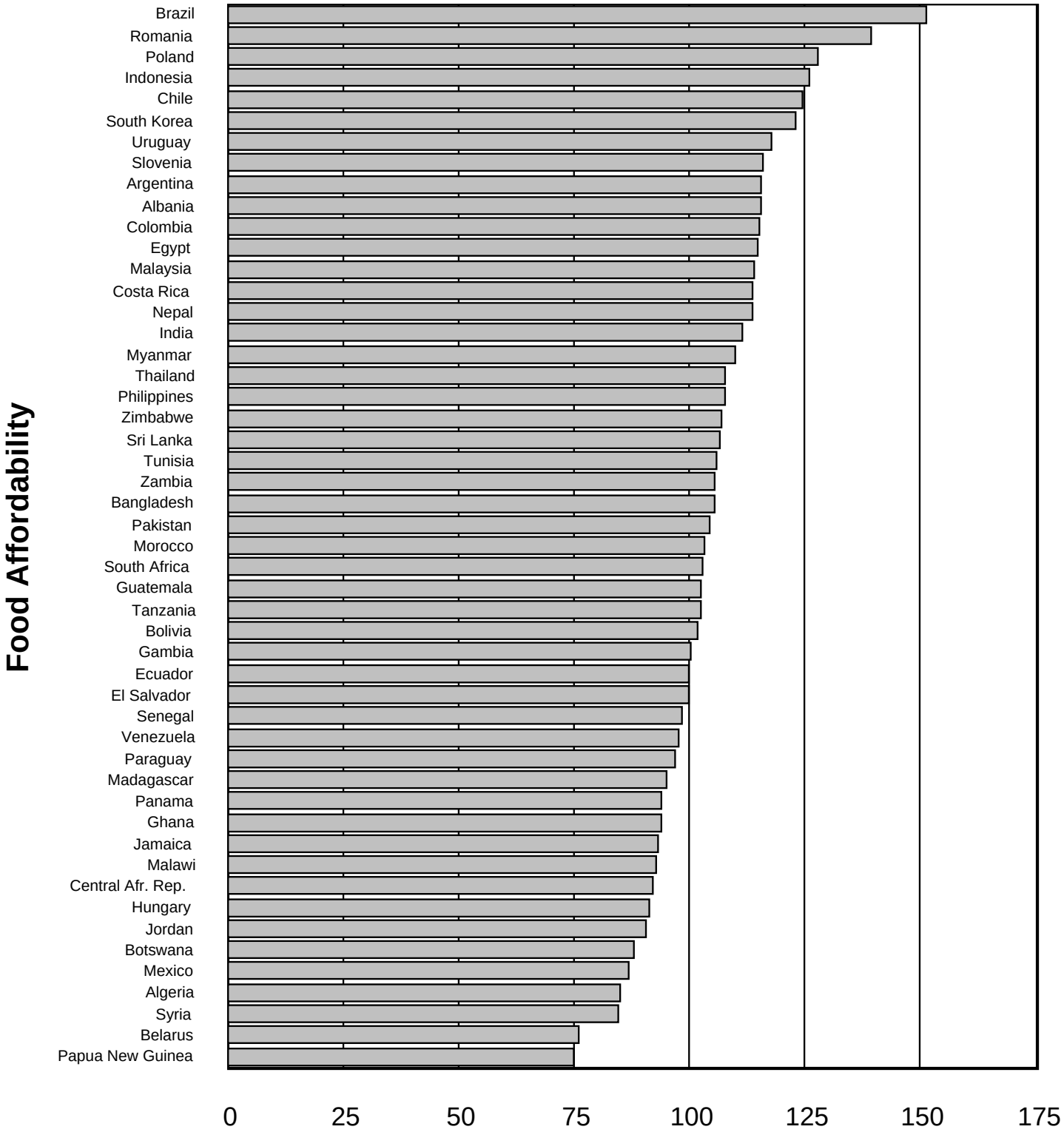
TABLE 2

	Change in Food Affordability			Baseline
	1995	1996	1997	Affordability
Bangladesh	1.1%	5.0%	-2.7%	2.2
Malawi	35.6%	21.2%	5.1%	2.5
Zambia	-1.2%	-10.5%	8.7%	2.6
Senegal	5.9%	5.5%	3.2%	4.8
Sri Lanka	3.7%	-3.3%	0.9%	5.0
Philippines	0.1%	0.5%	5.9%	7.7
Jamaica	5.2%	-3.3%	-2.9%	7.8
Egypt	3.8%	6.0%	2.9%	9.1
Zimbabwe	-10.6%	-3.6%	25.8%	9.2
Romania	17.3%	17.8%	-3.8%	9.7
Indonesia	9.7%	6.7%	5.8%	10.2
Morocco	-7.3%	10.0%	-4.2%	12.1
Thailand	3.9%	1.6%	-2.0%	16.3
Tunisia	-0.5%	2.6%	2.2%	18.8
Hungary	-9.6%	1.5%	2.8%	24.1
South Korea	8.4%	7.5%	1.9%	28.3
Botswana	0.3%	-8.1%	3.8%	30.3

	Table 3: Food Affordability (1993=100)					"By how much has consumption outpaced food inflation?"				
	Ratio of Consumption to Food Prices					Percent Change in FAI				Baseline (1993)
country	1993	1994	1995	1996	1997	1994	1995	1996	1997	Affordability
Brazil	100.0	101.9	117.8	137.3	151.4	1.9%	15.7%	16.6%	10.2%	
Romania	100.0	104.9	123.1	145.1	139.6	4.9%	17.3%	17.8%	-3.8%	9.7
Poland	100.0	103.8	107.9	117.5	127.8	3.8%	4.0%	8.9%	8.8%	
Indonesia	100.0	101.9	111.8	119.3	126.2	1.9%	9.7%	6.7%	5.8%	10.2
Chile	100.0	104.7	111.4	119.1	124.6	4.7%	6.4%	6.9%	4.6%	
South Korea	100.0	103.6	112.3	120.7	123.0	3.6%	8.4%	7.5%	1.9%	28.3
Uruguay	100.0	108.8	107.1	113.6	118.0	8.8%	-1.5%	6.0%	3.9%	
Slovenia	100.0	101.7	108.3	112.1	115.8	1.7%	6.5%	3.5%	3.3%	
Argentina	100.0	106.4	101.0	107.1	115.7	6.4%	-5.1%	6.1%	8.0%	
Albania	100.0	103.8	104.2	121.1	115.6	3.8%	0.4%	16.2%	-4.6%	
Colombia	100.0	104.4	107.5	110.9	115.4	4.4%	3.0%	3.1%	4.1%	
Egypt	100.0	101.4	105.2	111.5	114.8	1.4%	3.8%	6.0%	2.9%	9.1
Malaysia	100.0	105.7	111.5	113.0	114.1	5.7%	5.5%	1.4%	1.0%	
Costa Rica	100.0	103.7	118.0	114.6	113.9	3.7%	13.8%	-2.9%	-0.6%	
Nepal	100.0	103.0	103.3	107.9	113.8	3.0%	0.3%	4.5%	5.5%	2.5
India	100.0	101.4	99.8	102.5	111.5	1.4%	-1.7%	2.8%	8.7%	
Myanmar	100.0	106.9	104.7	114.3	110.0	6.9%	-2.1%	9.1%	-3.8%	
Thailand	100.0	104.2	108.3	110.0	107.9	4.2%	3.9%	1.6%	-2.0%	16.3
Philippines	100.0	101.2	101.3	101.8	107.8	1.2%	0.1%	0.5%	5.9%	7.7
Zimbabwe	100.0	98.9	88.4	85.2	107.2	-1.1%	-10.6%	-3.6%	25.8%	9.2
Sri Lanka	100.0	105.5	109.4	105.8	106.8	5.5%	3.7%	-3.3%	0.9%	5
Tunisia	100.0	101.6	101.1	103.7	106.0	1.6%	-0.5%	2.6%	2.2%	18.8
Zambia	100.0	109.9	108.6	97.2	105.6	9.9%	-1.2%	-10.5%	8.7%	2.6
Bangladesh	100.0	102.0	103.2	108.3	105.4	2.0%	1.1%	5.0%	-2.7%	2.2
Pakistan	100.0	98.3	102.0	105.5	104.5	-1.7%	3.7%	3.5%	-1.0%	4.7
Morocco	100.0	105.9	98.2	108.0	103.5	5.9%	-7.3%	10.0%	-4.2%	12.1
South Africa	100.0	96.9	99.7	103.4	102.8	-3.1%	2.9%	3.7%	-0.6%	
Guatemala	100.0	98.7	100.6	99.9	102.7	-1.3%	1.9%	-0.7%	2.7%	
Tanzania	100.0	96.1	92.5	94.7	102.5	-3.9%	-3.7%	2.4%	8.2%	
Bolivia	100.0	98.9	97.8	99.9	101.8	-1.1%	-1.1%	2.1%	1.9%	
Gambia	100.0	103.4	98.9	97.0	100.2	3.4%	-4.3%	-1.9%	3.3%	
Ecuador	100.0	101.3	101.9	101.8	99.9	1.3%	0.7%	-0.1%	-1.9%	
El Salvador	100.0	98.3	105.6	100.7	99.8	-1.7%	7.4%	-4.7%	-0.8%	
Senegal	100.0	85.5	90.5	95.5	98.5	-14.5%	5.9%	5.5%	3.2%	4.8
Venezuela	100.0	94.5	90.3	92.6	97.8	-5.5%	-4.5%	2.6%	5.6%	
Paraguay	100.0	105.4	97.4	101.0	97.1	5.4%	-7.6%	3.7%	-3.8%	
Madagascar	100.0	98.4	94.2	89.8	95.0	-1.6%	-4.2%	-4.8%	5.8%	
Panama	100.0	99.4	96.3	96.1	93.9	-0.6%	-3.1%	-0.2%	-2.3%	
Ghana	100.0	96.9	89.1	94.3	93.9	-3.1%	-8.1%	5.9%	-0.5%	
Jamaica	100.0	94.4	99.3	96.0	93.3	-5.6%	5.2%	-3.3%	-2.9%	7.8
Malawi	100.0	53.9	73.1	88.5	93.0	-46.1%	35.6%	21.2%	5.1%	2.5
Central Afr. Rep.	100.0	93.2	92.7	97.8	92.1	-6.8%	-0.5%	5.4%	-5.8%	
Hungary	100.0	97.1	87.7	89.0	91.5	-2.9%	-9.6%	1.5%	2.8%	24.1
Jordan	100.0	93.7	93.6	94.7	90.7	-6.3%	-0.1%	1.2%	-4.2%	
Botswana	100.0	92.2	92.4	85.0	88.2	-7.8%	0.3%	-8.1%	3.8%	30.3
Mexico	100.0	104.9	89.8	82.2	86.9	4.9%	-14.4%	-8.5%	5.8%	
Algeria	100.0	90.1	89.1	87.2	85.1	-9.9%	-1.1%	-2.1%	-2.5%	
Syria	100.0	101.7	95.2	90.9	84.8	1.7%	-6.3%	-4.5%	-6.7%	
Belarus	100.0	75.7	67.3	68.3	76.3	-24.3%	-11.1%	1.6%	11.7%	
Papua New Guinea	100.0	109.3	100.3	91.2	75.0	9.3%	-8.3%	-9.0%	-17.8%	

Chart 2: Change in Food Affordability Index, 1997*

(1993 = 100)



* Defined as "By how much has consumption outpaced food inflation" since 1993?

3) Data Availability

The data required to calculate the Food Affordability Index come from the World Bank's *World Development Indicators*, and where necessary to update missing data, the UN's *Monthly Bulletin of Statistics*. The most recent data used extends through 1997; 1998 data will become available in first quarter 2000. Furthermore, data limitations limited country coverage as follows:

1997	AFR	ANE[5]	ENI	LAC	All four[5]
Population, in millions, by region	560	2276	478	486	3800
Percent share used in FAI calculations	31%	79%	20%	86%	65%
Number of countries used in FAI calculations	12	17	6	15	50

Data scarcity allows us to calculate Food Affordability of Sub-Saharan African countries representing only 31% of that region's total population, and only 20% of the total population of Eastern/Central Europe and the New Independent States. Considering all these regions together, data are only available for countries representing approximately two-thirds of the non-developed world's population, excluding mainland China. However, country coverage and data availability will improve with each year's release of data.

Given these data limitations, regional Food Affordability Indices, weighted by population, are as follows:

Change in Food Affordability, 1993-97	AFR	ANE	ENI	LAC	All four
Population-weighted regional avg, 1993	100.0	100.0	100.0	100.0	100.0
Population-weighted regional avg, 1994	93.5	101.8	99.9	102.7	101.3
Population-weighted regional avg, 1995	92.7	102.7	104.5	105.5	102.5
Population-weighted regional avg, 1996	94.1	106.4	115.5	112.6	106.9
Population-weighted regional avg, 1997	97.6	111.7	119.8	120.6	112.5

In other words, Food Affordability worsened by 2.4% between 1993-96 in Sub-Saharan Africa, while it improved by 20.6% in Latin America and the Caribbean. Food affordability has also improved in the ENI region by 19.8% (measured where data are available) and in the ANE region by 11.7% (although the trend varies among countries). Country-specific performance is shown in the tables and chart above.

4) Internationally Comparable Prices for Wheat and Maize

The above methodology for measuring Food Affordability uses purchasing power parity - adjusted prices and income data to measure the relative affordability of a similar bundle of food goods across countries, relative to their affordability in 1993. A much simpler (and less accurate) method would be to compare the relative prices of common food commodities in each country.

Food commodity prices reflect prevailing conditions in both the supply and demand markets. In the supply market they reflect the cost of producing the food as determined by the cost inputs and productivity of the land, labor, and capital required to produce the food commodity. In the demand market commodity prices reflect consumer income and desire (propensity to consume) for the commodity. Since tastes, incomes, and prices differ across countries, we would not expect the affordability of any single commodity to vary uniformly across countries. Still, incomes relative to food costs will still be a key determinate of the affordability of any given food commodity.

The World Bank's *World Development Indicators* provides price data from the Food and Agriculture Organization (FAO) on two key commodities, wheat and maize (corn). These prices reflect those received by

[5] All regional averages and totals covered in this paper exclude mainland China from the calculations.

the farmer as reported by official country publications or FAO questionnaires.[6] Although the prices are converted to U.S. dollars from local currency units using the prevailing official exchange rate, it is possible to construct a comparable series measured in international dollars using the Purchasing Power Parity (PPP) exchange rate to obtain a better sense of the true cost of these commodities relative to the purchasing power of the local currency.

Both wheat and maize data are available for 48 countries, for up to six years, 1990-95. Using this data, it is possible to rank, for each year and both commodities, these 48 countries in terms of the International Dollar Cost per Metric Ton. Table 4 shows that in 1990, the cost per metric ton for maize ranged from PPP$81 in Canada to PPP$675 in Rwanda. Maize was also cheapest in Canada in 1991, while in 1992-95, it was cheapest in Argentina. Similar calculations are made for wheat prices. Finally using the range from the minimum price to the maximum price, an average percentile ranking of comparable prices is made.

There was a very similar ranking order when comparing the cost of wheat to the cost of maize. A simple correlation of the percentile scores gave a 94% correlation. The few exceptions, such as Zambia, Zimbabwe, and Malawi, have much cheaper maize prices relative to the other countries than their wheat prices, owing to substantial maize subsidies and other market distortions. Chart 3 shows the percentile rankings of wheat versus maize. Those commodities are relatively expensive for those countries in the upper-right corner of the chart while they are relatively cheap for those countries in the lower-left corner.

According to the internationally-comparable prices calculated from FAO data, presented in Table 4 and shown graphically in Chart 3, wheat and maize were most affordable (in 1990-95) in Argentina, Canada, and the U.S. By contrast, these two commodities were least affordable in Rwanda, Nigeria, Morocco, Algeria, and Colombia.

5) Conclusion

Food Affordability, a concept measuring the cost of food relative to the purchasing power of the local currency and to income level, can be tracked using the Food Affordability Index discussed in this Note. This Index is composed of the change in food price inflation relative to per capita consumption levels. Data are currently available through 1997, with coverage for more countries and 1998 expected to be available by end-March 2000. Measuring absolute levels of Food Affordability is somewhat more involved, requiring Purchasing Power Parity data available on prices throughout the economy. However, it is possible to rank countries by Baseline Food Affordability to improve the interpretation of changes in Food Affordability.

Though difficult to generalize because of data scarcity and differing country trends, Food Affordability in developing countries has improved significantly since 1993. This improvement comes from extremely low levels of affordability, however, when measured against the extremely high level of Food Affordability in the United States and elsewhere among developed nations.

[6] In theory these prices should refer to national average farm-gate, or first-point-of-sale, transactions. But depending on the country's institutional arrangements -- whether may reflect wholesale prices, government-fixed prices, or support prices -- the data do not always refer to the same selling points. Market imperfections such as taxes, subsidies, and trade barriers may further distort domestic prices.

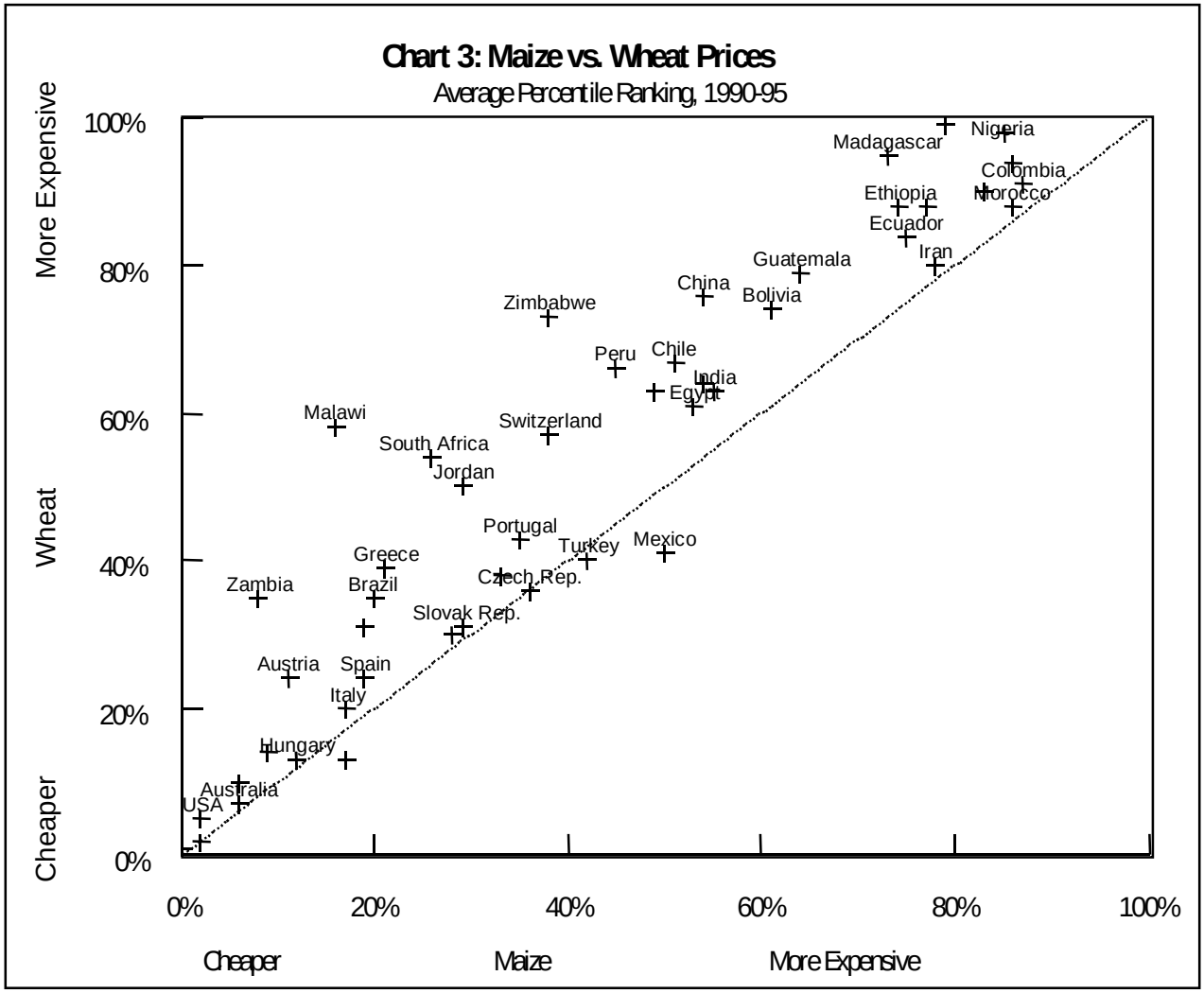


Chart 3: Maize vs. Wheat Prices
Average Percentile Ranking, 1990-95
More Expensive
Wheat
Cheaper
100%
80%
60%
40%
20%
0%
0%
20%
40%
60%
80%
100%
Cheaper
Maize
More Expensive
Nigeria
Madagascar
Colombia
Morocco
Ethiopia
Ecuador
Iran
Guatemala
China
Bolivia
Zimbabwe
Peru
Chile
India
Egypt
Malawi
Switzerland
South Africa
Jordan
Portugal
Turkey
Mexico
Greece
Zambia
Brazil
Czech Rep.
Slovak Rep.
Austria
Spain
Italy
Hungary
Australia
USA

Table 4: Internationally Comparable Prices for Wheat and Maize

	Maize price (PPP$ per metric ton)						Avg. Percentile Ranking	Wheat price (PPP$ per metric ton)						Avg. Percentile Ranking
Country Name	1990	1991	1992	1993	1994	1995	**1990-95**	1990	1991	1992	1993	1994	1995	**1990-95**
Argentina			76	72	86	76	**0.00**			120	107	108	107	**0.01**
Canada	81	85	79	108	96		**0.02**	87	100	116	117	107		**0.02**
United States	91	93	83	100	90		**0.02**	97	110	121	122	129		**0.05**
Germany	171	181	162	128	131		**0.06**	167	165	163	135	130		**0.10**
Australia	122	117	124	154	150	180	**0.06**	134	93	144	137	131	162	**0.07**
Zambia	202	188					**0.08**	347	292					**0.35**
France	175	197	163	149	145		**0.09**	168	173	172	156	150		**0.14**
Austria	222	217	214	214	133		**0.11**	272	257	246	245	225		**0.24**
Hungary	277	165	150	181	151		**0.12**	195	135	144	167	141		**0.13**
Bulgaria	208	194	275	205			**0.12**	194	100	236	186			**0.13**
Malawi	246	233	220	281	214	200	**0.16**	520	475	533	523	455	361	**0.58**
Uruguay						200	**0.17**						199	**0.13**
Italy	227	226	341	210	198		**0.17**	264	248	231	243	206		**0.20**
Slovenia		279	231	222	203		**0.19**		262	304	301	273		**0.31**
Spain	260	251	229	250	228	234	**0.19**	245	253	240	236	225	239	**0.24**
Brazil					299	169	**0.20**					322	214	**0.35**
Greece	268	255	265	247	238	234	**0.21**	398	358	351	318	304	301	**0.39**
South Africa	251	269	315	268	222	337	**0.26**	428	467	497	483	450	445	**0.54**
Paraguay	313	287	279	296	294		**0.28**	279	269	317	270	241		**0.30**
Slovak Republic				300	274	267	**0.29**				301	265	233	**0.31**
Jordan	312	308	306	303			**0.29**	438	477	473	468			**0.50**
Romania	288	317	394	383	258		**0.33**	218	267	360	415	382		**0.38**
Portugal	438	350	317	293	259		**0.35**	538	438	374	313	270		**0.43**
Czech Republic				327	315		**0.36**				290	278		**0.36**
Switzerland	349	348	354	339	316	295	**0.38**	471	446	468	494	491	499	**0.57**
Zimbabwe	269	258	411	542			**0.38**	550	498	743	873			**0.73**
Turkey	330	291	373	348	379	402	**0.42**	334	289	310	338	322	348	**0.40**
Peru	320	444	428	408	363	372	**0.45**	658	564	443	517	443	510	**0.66**
Namibia	380	390	399	484	469		**0.49**	489	498	543	560	474		**0.63**
Mexico	462	448	440	413	333		**0.50**	385	371	356	331	310		**0.41**
Chile	458	442	412	412	428	397	**0.51**	523	555	534	526	522	506	**0.67**
Egypt, Arab Rep.	522	484	416	407	405		**0.53**	578	546	504	470	451		**0.61**
Kenya	323	348	486	673			**0.54**	556	570	573	469			**0.64**
China	456	395	418	450	582		**0.54**	606	564	607	575	748		**0.76**
India	329	507	488	455			**0.55**	451	449	593	565	559		**0.63**
Bolivia	582	485	438	437	494		**0.61**	581	548	576	597	671		**0.74**
Guatemala	638	452	476	509			**0.64**	821	637	618	588			**0.79**
Madagascar		543					**0.73**		952					**0.95**
Ethiopia	486	624	715				**0.74**	718	926	1102				**0.88**
Ecuador	600	548	601	514	555	577	**0.75**	910	730	717	627	612	589	**0.84**
Lesotho	535	606	661	629	644		**0.77**			904				**0.88**
Iran, Islamic Rep.			576	740	589		**0.78**	642	710	646	742	652		**0.80**
Chad	580	759	639	597			**0.79**	1538	1783	1599	1492			**0.99**
Rwanda	675	761	687			515	**0.83**	850	944	829			802	**0.90**
Nigeria	576	803	856	959	563		**0.85**	1362	1293	1416	1535	1288		**0.98**
Morocco	606	643	771	760	692		**0.86**	781	766	892	871	772		**0.88**
Algeria	657	432	1308	1210	963	1085	**0.86**	936	730	1176	1088	866	1288	**0.94**
Colombia			753	773	631		**0.87**			991	932			**0.91**